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ABSTRACT

This study attempted to determine if there was a change in job attitude among employees of a state institution for the developmentally disabled after a move to new, superior facilities. An attitude scale was constructed and administered in December 1982, prior to the move. A second testing occurred two months later, after Experimental Group I had moved, but prior to Experimental Group II's move. The third and final testing was completed in May, 1983, after Experimental Group II had moved into the new facility. Several different approaches for testing specific hypotheses which are some combination of within-group contrasts are suggested. The use of imposing side conditions to construct a full model is shown. (BW)

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Testing Hypotheses in a Repeated Measures Design on Employee Attitudes with Large Samples

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Summary - The use of a typical repeated measures design is contrasted with using specific hypotheses which would directly address research questions. The use of imposing side conditions to construct a full model is shown.

The following design using the notation of Campbell and Stanley (1963), was used to test the effect of moving into superior facilities on employees in an institution for the developmentally disabled:

Group one	O_1	X	O_2		O_3
Group Two	O_1		O_2	X	O_3
Group Three	O_1		O_2		O_3

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While this design is relatively simple to conceptualize, computational difficulties can occur in practice; if large N's are encountered with unequal N's, typical texts will often do little more than suggest a solution. If the researcher wishes to address specific hypotheses, traditional multiple comparison procedures do not serve as a handy guide. Using our example, but changing the notation yields:

Group One	$\bar{Y}_1$	X	$\bar{Y}_2$		$\bar{Y}_3$
Group Two	$\bar{Y}_4$		$\bar{Y}_5$	X	$\bar{Y}_6$
Group Three	$\bar{Y}_7$		$\bar{Y}_8$		$\bar{Y}_9$

A researcher may want to address the question, "Is the change in $\bar{Y}_1$ to $\bar{Y}_2$ different than the difference in $\bar{Y}_4$ and $\bar{Y}_5$ or $\bar{Y}_8$ and $\bar{Y}_9$ (or a mean of these two differences)?

Is the long term effect ($\bar{Y}_3 - \bar{Y}_2$) different than the corresponding control differences ($\bar{Y}_9 - \bar{Y}_8$)? Are the implementation changes the same (is $\bar{Y}_2 - \bar{Y}_1 = \bar{Y}_6 - \bar{Y}_5$)?

These questions become more difficult to address in the presence of a

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repeated measures design with large N. The addressing of these questions in a regression format is made somewhat easier using the suggestion regarding coding of Pedhazur (1977), Williams (1977), and more recently, by Fraas and McDougall (1983).

Subjects and Setting

The subjects involved in this study included three groups of employees at Grafton State School, a state institution for the developmentally disabled. Grafton State School is a unitized facility; that is, living units are organized according to the level of resident functioning. Seven of the units are progressively formed in that residents within a unit display a similar level of functioning. An eighth unit is a behavior management unit that exists to help aleviate short term behavioral problems of residents from the other units. Typically, a resident would spend considerably less time in the behavior management unit than in the other units.

A new complex was built that houses 192 residents (the total institution population has in recent years approximated 800). The first scheduled use of the new complex was December, 1982 at which time one unit-Unit VIII-the behavior management unit moved into its half of the complex. A second unit-Unit I-the lowest level of functioning unit moved into the other half of the complex upon its completion in March, 1983.

The new complex could be described as highly superior living units to those occupied previously by the residents. Not coincidentally, the new units would also provide markedly improved working conditions for the affected employees.

The three groups of employees involved in this study included Experimental Group One (N = 37); Experimental Group Two (N = 56); and the control group

(N = 92). The number of employees just referenced indicates the number who completed all three attitude scales. All employees of the designated units were asked to participate; a few employees declined. While many of the members of the professional staff of each unit would have received college or university degrees, over 85 percent of the employees were direct care personnel and typically were high school graduates without further education.

Statement of the Problem

The present study attempted to look at relocation effects-more specifically to determine if there was a change in job attitude among employees after the move to the new, superior facilities.

Attitude Scale Construction and Testing

A small core of professional and direct care personnel were involved in the scale construction, directed by the present second author. Items were written to measure relevant job related activities including actual work activities, relationships with other personnel both inside and outside the unit, work with residents and issues related to pay. Two scales were constructed, each with 24 items. The first scale used a format with complete stems, while the second, measuring the same universe of items, used a Likert format. For example, two items from both scales are presented. The following item is from the scale with complete stems.

11. Do you think your ward is a good place for residents to live?
    - A. The ward is much better than most.
    - B. The ward is somewhat better than most.
    - C. The ward is about the same as most.
    - D. The ward is not quite as good as most.
    - E. The ward is much worse than most.

The corresponding item from the Likert type scale is as follows:

11. I think the ward I work on is better than most other places for residents to live.

1 2 3 4 5

Where 1 = I agree completely

2 = I agree mostly

3 = I agree and disagree about equally

4 = I disagree

5 = I disagree completely

For present purposes, only the first scale is considered, the results from the two scales are quite similar (see Williams and Williams, 1983). A complete copy of the first scale is appended.

The first testing occurred in early December, 1982 prior to any move to the new buildings. Shortly after the first scale administration, Experimental Group I (Behavior Management Unit) moved to the new facility. A second testing occurred two months later, prior to the move of Experimental Group II (Unit I) to the new facility. The third and final testing was completed in May, 1983, after Experimental Group II had moved into the new facility and after both Experimental Groups I and II had become Title XIX certified (federally funded).

In regard to the scaling, items were scored so that the higher the score, the more favorable the attitude. For each person, a mean was used rather than a sum; thus for those respondents who failed to answer a particular item, scores were still possible.

Completing an Analysis of Variance with Large N

Perhaps the most novel aspect of the analysis of variance, from the

point of view of users of linear models, is the coding of the subjects effect. With N = 185, building 184 linearly independent person vectors would be wasteful of time and energy, and perhaps beyond the capacity of many computer systems. Rather, the use of the sum of the subjects scores is used as a single variable to serve as a proxy for the N - 1 binary coded person vectors.

Results and Interpretation for the Analysis of Variance

From Table 1, it can be seen that significance is found for time (both linear and second degree) and the time X groups interaction; the main effects for groups is non-significant. Experimental Group One appears to have had a slight increase in job satisfaction upon moving into the superior quarters, followed by a decrease at testing time 3. Experimental Group Two appears to have suffered a percipituous drop in job satisfaction upon moving into superior quarters. The control group appears to have had a drop in job satisfaction approximately equal to that of Experimental Group One at testing time 3. Indeed, if Experimental Group One is compared to the control group, the intervention (moving) might be seen as being perhaps slightly beneficial in employee attitude. On the other hand, Experimental Group Two has outcomes that are markedly different from the other two groups. These employees initially had the highest job attitude scores, but by testing time 3 these same employees had the lowest job attitude scores. It would appear that the effect of moving into superior quarters on employee attitude might well be negative.

In the sense of Campbell and Stanley (1963), history yields two clues to the outcomes described here. Because Title XIX (Public Law 92-223) certification was sought for both units, concerns and pressures associated with certification might well have dissipated any positive impact of the

move on employee attitudes. Initially, the unit whose employees were in Experimental Group One failed to receive certification. This failure occurred directly before the second administration of the attitude instrument. While certification was received shortly thereafter, this certification was not achieved without considerable disruption after moving into the new facilities. The employees in Experimental Group Two were in a situation made more tense by a "push" to receive certification upon the first inspection. The inspection occurred in April, 1983; that inspection occurred prior to the final testing.

A second variable that affected the outcome of the study in the same sense of history could be sought to explain the overall drop. The most significant outcomes are in relation to time. It can be seen that all three groups of employees show a major drop in job satisfaction at testing time 3. See Figure 1. While it can only be conjectured, those outcomes might be closely related to political activity in the state legislature. Perhaps it might be simpler to discuss what happened to employees' raises in the state legislature. The governor was expected to restore 4% increases for employees allowed by the previous legislative session on January 1, 1983, with raises of 8% each year, beginning in July. After testing time 1 (in January, 1983) the 4% that was withheld temporarily became withheld permanently. Also by testing time 2, the raises had dropped to 4% for each year. By testing time 3 the legislature had adjourned. There were to be no salary increases. Thus, dissatisfaction with salary might be one explanation for the overall drop in each of the groups.

Direct Hypotheses Testing

Several different ways using linear models can be incorporated into

addressing hypotheses of interest. For example, suppose the hypotheses regarding "Is the change in $\bar{Y}_1$ to $\bar{Y}_2$ different than the difference in $\bar{Y}_4$ and $\bar{Y}_5$ or $\bar{Y}_8$ and $\bar{Y}_9$ (or a mean of these differences)?" The question just posed actually can be seen to be three questions: Is $\bar{Y}_1 - \bar{Y}_2 = \bar{Y}_4 - \bar{Y}_5$, is $\bar{Y}_1 - \bar{Y}_2 = \bar{Y}_8 - \bar{Y}_9$ and is $\bar{Y}_1 - \bar{Y}_2 = \frac{1}{2}(\bar{Y}_4 - \bar{Y}_5) + \frac{1}{2}(\bar{Y}_8 - \bar{Y}_9)$?

The first approach to be used is similar to that shown in Williams (1980). First, the criterion is reconstructed as $Y = Y^* + Y^{**}$ where $Y^* = \hat{Y}$ where the $\hat{Y}$ values are the predicted values from using the equation

$$\hat{Y} = b_0 + b_p P \qquad [1]$$

For the present data,

$\hat{Y} = 1/3P$

Then, $Y^{**} = Y - Y^*$. It is the Y^{**} criterion that will allow tests on certain (but not all) cell means. The full model can be written as:

$$Y^{**} = b_1X_1 + b_2X_2 + \ldots + b_9X_9 + e_1. \qquad [2]$$

where the $X_i = 1$ if from the corresponding cell and 0 otherwise. Reparameterizations that would be useful for this full model include:

$$Y^{**} = b_0 + b_1X_1 + b_2X_2 + \ldots + b_8X_8 + e_1, \qquad [3]$$

and

$$Y^{**} = b_0 + b_1X_1 + b_2X_2 + \ldots + b_7X_7 + b_9X_9 + e_1 \qquad [4]$$

In fact, nine such reparameterizations could be completed, each time leaving out a single b_iX_i.

If simple comparisons of cell means are of interest, the set of nine reparameterizations would yield psuedo-Dunnett solutions (Williams. 1971) that would allow all possible comparisons of means such as would be accomplished by Tukey's test (Williams, 1974). The resulting computed t values would have to be adjusted by multiplying by $\sqrt{\frac{\text{correct df}}{\text{incorrect df}}}$ since the df for the MS_w would be 364 rather than 546 which would routinely appear

on the printout (Fraas & McDougall, 1983; Williams, 1980). However, these values are only accurate for within subjects effects (i.e., comparisons among Group One at Times 1, 2 or 3, or comparisons among Group Two at Times 1, 2 or 3 or among the control group at Times 1, 2 or 3). For comparisons among cross group cell differences, the situations is the same as any two way layout for multiple comparisons (see Williams, 1980, Chapter Four). A reparameterization of equation 4 would be:

$$Y^{**} = b_0 + b_2X_2 + b_3X_3 + \ldots + b_9X_9 + e_2. \qquad [5]$$

Using equation 5, the computed t value, .474, would be multiplied by $\sqrt{\frac{364}{546}}$ or .8165; t = .387.

Of course, this value could have also been found by placing appropriate restrictions on the full model (equation 3) and solving the equation:

$$t = \sqrt{F} = \sqrt{\frac{(R_F^2 - R_R^2)/1}{(1 - R_F^2)/364}}.$$

The appropriate restriction is $b_1 = b_2$. Then

$$Y^{**} = b_2X_1 + b_2X_2 + b_3X_3 + \ldots + b_9X_9 + e_3$$

or

$$Y^{**} = b_2(X_1 + X_2) + b_3X_3 + \ldots + b_9X_9 + e_3, \text{ and}$$

reparameterizing,

$$Y^{**} = b_0 + b_2(X_1 + X_2) + b_3X_3 + \ldots + b_8X_8 + e_3. \qquad [6]$$

Testing the restricted model against the full model yields:

$$t = \sqrt{\frac{.16043 - .16008}{(.83957)/364}} = .389 \text{ (approximately the same as the earlier value).}$$

This comparison could also have been accomplished by:

$$t = \frac{\bar{Y}_2 - \bar{Y}_1}{\sqrt{\frac{1}{37} + \frac{1}{37}(.094)}}.$$

To address the question:

is $\bar{Y}_1 - \bar{Y}_2 = \bar{Y}_4 - \bar{Y}_5$, the restriction $b_1 - b_2 = b_4 - b_5$ can be placed on equation 3. First, $b_1 = b_4 - b_5 + b_2$. Then:

$$Y^{**} = (b_4 - b_5 + b_2)X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + e_5.$$

$$Y^{**} = b_2(X_2 + X_1) + b_3X_3 + b_4(X_4 + X_1) + b_5(X_5 - X_1) + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + e_4. \qquad [7]$$

Then, arbitrarily choosing any b_i between b_2 and b_9 to equal zero (thereby reintroducing b_0), yields (choosing $b_9 = 0$)

$$Y^{**} = b_0 + b_2(X_2 + X_1) + b_3X_3 + b_4(X_4 + X_1) + b_5(X_5 - X_1) + b_6X_6 + b_7X_7 + b_8X_8 + e_4. \qquad [8]$$

Then, $t = \sqrt{F} = \sqrt{\dfrac{(R_F^2 - R_R^2)/1}{(1 - R_F^2)/364}}$ or $\sqrt{\dfrac{.16043 - .15576}{.83957/364}}$,

$t = 1.423$,

which should be tested using an appropriate multiple comparison procedure, depending upon the number and type of comparisons to be completed. In any event, this t value is unlikely to be convincing evidence that the change for Group One is significantly better than Group Two at Time 2.

A similar process could be used to test $\bar{Y}_1 - \bar{Y}_2 = \bar{Y}_8 - \bar{Y}_9$.

This test yields

$t = \sqrt{F} = \sqrt{\dfrac{.16043-.15516}{.83957/364}} = 1.512.$

Also, testing $\bar{Y}_1 - \bar{Y}_2 = \frac{1}{2}(\bar{Y}_4 - \bar{Y}_5) + \frac{1}{2}(\bar{Y}_8 - \bar{Y}_9)$ yields

$t = \sqrt{F} = \sqrt{\dfrac{.16043 - .15443}{.83957/364}} = 1.613.$

Testing the second set of implied questions, "Is the long term effect, that is, $\bar{Y}_3 - \bar{Y}_2$ different than the corresponding control differences $(\bar{Y}_9 - \bar{Y}_8)$? Here, $t = \sqrt{F} = \sqrt{\dfrac{.16043 - .15878}{.83957/364}} = .846$. indicating little long term effect.

Are the implementation changes the same (is $\bar{Y}_2 - \bar{Y}_1 = \bar{Y}_6 - \bar{Y}_5$) yields

$t = \sqrt{F} = \sqrt{\frac{.16043 - .13265}{.83957/364}} = 3.470.$

This last difference would show that the implementation changes were different for the two experimental units. Clearly, other questions could be posed on the data as well.

Using Side Conditions

Another approach to the repeated measures design is to employ side conditions. Since the group effect is nested in the subjects effect, the full model $Y = b_pP + b_1X_1 + b_1X_2 + \ldots + b_9X_9 + e_5$ [9] can be turned into a full model with the group effects removed by imposing side conditions.

The group effects hypotheses can be given as:

$$\frac{n_1b_1 + n_2b_2 + n_3b_3}{n_1 + n_2 + n_3} = \frac{n_4b_4 + n_5b_5 + n_6b_6}{n_4 + n_5 + n_6} = \frac{n_7b_7 + n_8b_8 + n_9b_9}{n_7 + n_8 + n_9}. \qquad [10]$$

Since $n_1 = n_2 = n_3$, $n_4 = n_5 = n_6$, $n_7 = n_8 = n_9$, equation 10 can be rewritten as:

$$\frac{n_1(b_1 + b_2 + b_3)}{3n_1} = \frac{n_4(b_4 + b_5 + b_6}{3n_4} = \frac{n_7(b_7 + b_8 + b_9)}{3n_7}$$

or more simply as $b_1 + b_2 + b_3 = b_4 + b_5 + b_6 = b_7 + b_8 + b_9$. Any two of several restrictions could be made. The following two could be chosen:

$b_3 = b_7 + b_8 + b_9 - b_1 - b_2$ and

$b_6 = b_7 + b_3 + b_9 - b_4 - b_5$.

Imposing these two restrictions (actually, side conditions) yields:

$$Y = b_pP + b_1X_1 + b_2X_2 + (b_7 + b_8 + b_9 - b_1 - b_2)X_3 + b_4X_4 + b_5X_5 + (b_7 + b_8 + b_9 - b_4 - b_5)X_6 + b_7X_7 + b_8X_8 + b_9X_9 + e_6; \qquad [11]$$

or

$$Y = b_pP + b_1(X_1 - X_3) + b_2(X_2 - X_3) + b_4(X_4 - X_6) + b_5(X_5 - X_6) + b_7(X_7 + X_3 + X_6) + b_8(X_8X_3 + X_6) + b_9(X_9 + X_3 + X_6) + e_6. \qquad [12]$$

Equation 12 (or reparameterizations of it, using different restrictions expressing the side conditions) then serves as a full model for testing against restricted models; $R^2 = .79869$.

Now, direct hypotheses can be tested by placing appropriate restrictions simultaneously with the side conditions. For example, testing $\bar{Y}_1 - \bar{Y}_2 = \bar{Y}_4 - \bar{Y}_5$ is done using the restriction $b_1 - b_2 = b_4 - b_5$ or $b_1 = b_4 - b_5 + b_2$, as before.

$$\text{Then } Y = b_p P + (b_4 - b_5 + b_2)X_1 + b_2X_2 + (b_7 + b_8 + b_9 - b_4 + b_5 - 2b_2)X_3 + b_4X_4 + b_5X_5 + (b_7 + b_8 + b_9 - b_4 - b_5)X_6 + b_7X_7 + b_8X_8 + b_9X_9 + e_7; \quad [13]$$

$$Y = b_p P + b_2(X_2 + X_1 - 2X_3) + b_4(X_4 + X_1 - X_6 - X_3) + b_5(X_5 - X_1 - X_6 + X_3) + b_7(X_7 + X_3 + X_6) + b_8(X_8 + X_3 + X_6) + b_9(X_9 + X_3 + X_6) + e_7. \quad [14]$$

Note that the restrictions are made simultaneously with the side conditions on the full model (equation 9). Were the restrictions placed on equation 12, a different hypothesis would be tested: b_1 in equations 13 and 14 is different from b_1 in equation 12. Placing the restriction $b_1 - b_2 = b_4 - b_5$ on equation 12 tests the hypothesis $2(\bar{Y}_2 - \bar{Y}_5) = \bar{Y}_6 - \bar{Y}_3$, clearly a very different hypothesis than $\bar{Y}_1 - \bar{Y}_2 = \bar{Y}_4 - \bar{Y}_5$.

The constant term could be reintroduced by arbitrarily setting equal to zero any one of the remaining b_i. Doing this yields $R^2 = .79757$. Therefore $t = \sqrt{F} = \sqrt{\frac{.79869 - .79757}{.20131/354}} = 1.423$, the same result given earlier for this contrast following equation 8.

This process could be repeated for any of the other hypotheses, imposing the restriction implied by the hypothesis simultaneously with the side conditions. Care must be taken to be sure that hypotheses tested on this model are appropriate; such hypotheses must be some combination of within group contrasts.

Directly Using the Full Model

Had equation 9 been used directly, it can be seen that the outcome is comparable to using the side conditions:

$$Y = b_p P + b_1 X_1 + b_2 X_2 + \ldots b_9 X_9 + e_5; \qquad [9]$$

testing $\bar{Y}_1 - \bar{Y}_2 = \bar{Y}_4 - \bar{Y}_5$ is done using the restriction $b_1 - b_2 = b_4 - b_5$ or $b_1 = b_4 - b_5 + b_2$, as before.

Then,

$$Y = b_p P + (b_4 - b_5 + b_2)X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + b_7 X_7 + b_8 X_8 + b_9 X_9 + e_8;$$

$$Y = b_p P + b_2(X_2 + X_1) + b_3 X_3 + b_4(X_4 + X_1) + b_5 (X_5 - X_1) + b_6 X_6 + b_7 X_7 + b_8 X_8 + b_9 X_9 + e_8.$$

Reparameterizing by choosing $b_9 = 0$,

$$Y = b_0 + b_p P + b_2(X_2 + X_1) + b_3 X_3 + b_4(X_4 + X_1) + b_5(X_5 - X_1) + b_6 X_6 + b_7 X_7 + b_8 X_8 + e_8. \qquad [15]$$

Note the similarity between equation 15 and equation 9.

Equation 9 yields $R^2 = .79869$; equation 15 yields $R^2 = .79757$. Therefore, $t = \sqrt{F} = \sqrt{\frac{.79869 - .79757}{.20131/364}} = 1.423$, identically the same result as found using side conditions.

It can be seen that several different approaches can be used to test hypotheses in a repeated measures designs. The use of the criterion Y** where Y** = Y - Y* when Y* = 1/3P, as was shown in Williams (1980) allows an appropriate testing procedure. The use of side conditions (which uses a model removing the nesting effect) or a model containing the group membership variables and the person-score vector yield identical results. Perhaps the latter approach would be conceptually easier to understand. The direct use of equation 9 can be completed despite the nesting of the group effects. Had person vectors been included rather than the summed P variable, the nesting

problem becomes more apparent. In any event, the relationship of these three solutions should be noted.

Table 1

Analysis of Variance for the Stem Attitude Scale
with Three Groups of Employees (N = 185)

Source of Variation	df	SS	MS	F
Among Subjects	184	128.84		
Groups	2	.64	.32	.46
error (a)	182	128.20	.70	
Within Subjects	370	40.63		
Time	2	5.23	2.62	29.11c
Linear	1	4.83	4.83	53.67c
Second	1	.40	.40	4.44a
Time X Groups	4	1.29	.32	3.56b
error (w)	364	34.11	.09	
Total	554	169.47		

a, p <.05
b, p <.01
c, p <.001

Table 2

Table of Means for the Stem Attitude Scale
with Three Groups of Employees (N=185)

	Time 1	Time 2	Time 3	Total
Group One (N=37)	2.68	2.71	2.54	2.64
Group Two (N=56)	2.90	2.79	2.50	2.73
Control (N=92)	2.80	2.73	2.63	2.75
Total (N=185)	2.80	2.75	2.57	2.71

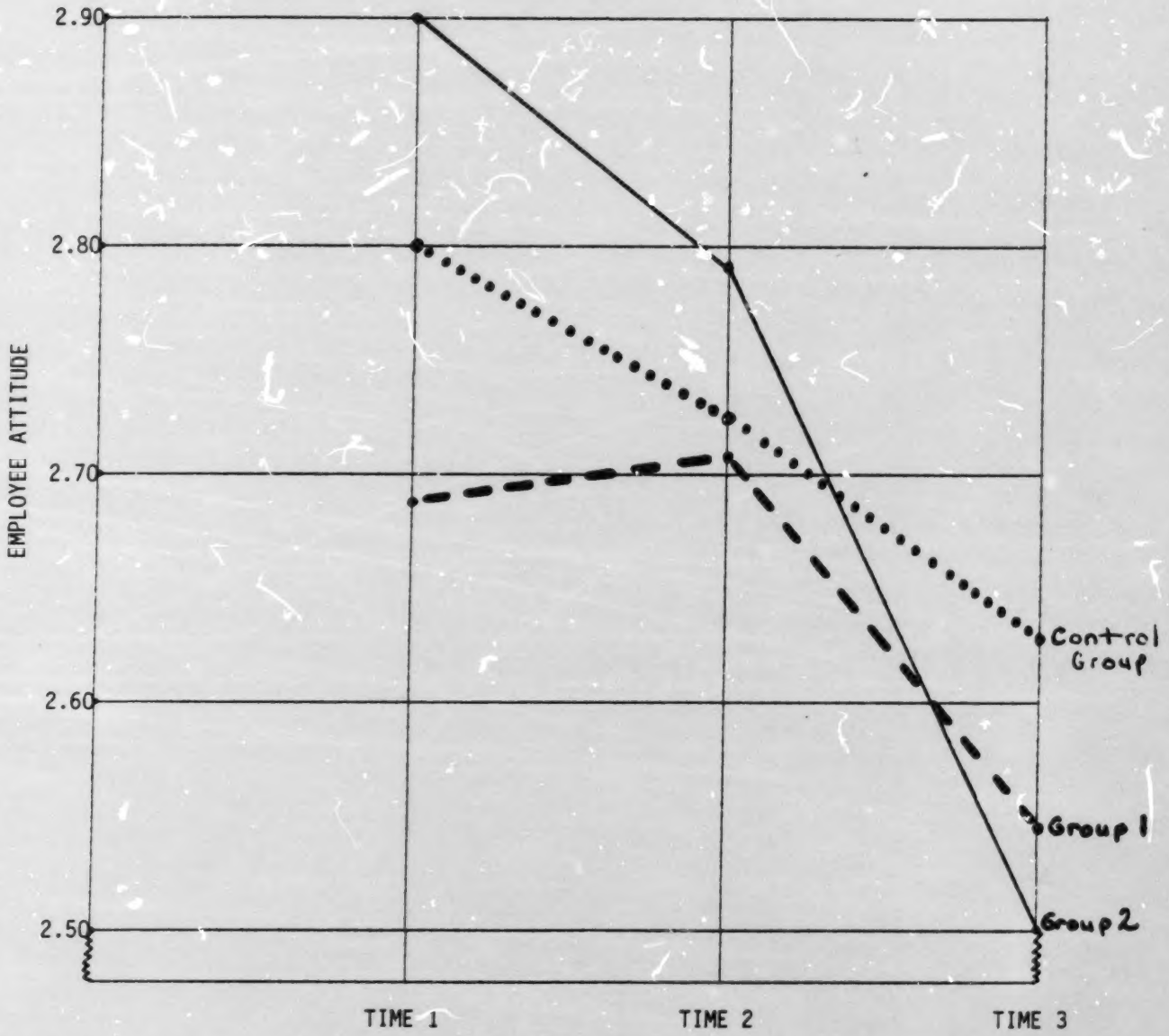

FIGURE 1. MEANS FOR THE STEM ATTITUDE SCALE WITH THREE GROUPS OF EMPLOYEES

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JOB ATTITUDE QUESTIONNAIRE

Please choose the letter that best represents your answer to the question asked and put it in the blank provided next to the question number.

_____ 1. How do you like the work that you do?

A. It's the kind of work that I like best.
B. It is close to the type of work I like to do.
C. I like it, but there are other kinds of work I like just as much.
D. It's all right, but there are other kinds of work I like better.
E. I don't like it very much; I would prefer some other kind of work.

_____ 2. What do you think about the Unit you work in as a place to work?

A. The best possible place to work.
B. Good place to work.
C. About average.
D. Somewhat below average.
E. Among the poorest places to work.

_____ 3. What do you think about your ward as a place to work?

A. The best possible place to work.
B. Good place to work.
C. About average.
D. Somewhat below average.
E. Among the poorest places to work.

_____ 4. When it comes to accomplishing results, how do you think your Unit would compare with other units at the School?

A. Much better than most.
B. Somewhat better than most.
C. About the same as most.
D. Not quite as good as most.
E. Much worse than most.

_____ 5. All in all, how do you feel about your own pay?

A. Very satisfied.
B. Satisfied.
C. Fairly satisfied.
D. Rather dissatisfied.
E. Very dissatisfied.

_____ 6. If you had a chance to do the same kind of work, for the same salary, in another unit of the School, what would you rather do?

A. Definitely want to stay where I am.
B. Rather stay where I am.
C. It wouldn't matter to me.
D. Rather move than stay.
E. Want very much to move to another section.

_____ 7. How would you describe the morale of employees in positions similar to yours in your Unit?

A. Most employees have high morale.
B. More employees have high morale than have low morale.
C. Employees who have high morale and employees that have low morale are about the same in number.
D. More employees have low morale than have high morale.
E. Most employees have low morale.

_____ 8. Do you feel you are working as part of a team?

A. I almost always feel I am part of a team.
B. I usually feel I am part of a team.
C. I feel I am part of a team about half of the time.
D. I rarely feel I am part of a team.
E. I almost never feel I am part of a team.

_____ 9. In your opinion, what do you think your effect is on the behavior of residents on your ward?

A. Strong, positive effect.
B. Most often the effect is positive.
C. There is little or no effect.
D. The effect tends to be somewhat negative.
E. Strong, negative effect.

_____ 10. What one word sums up your opinion of your job?

A. Challenging.
B. Satisfying.
C. Acceptable.
D. Frustrating.
E. Boring.

_____ 11. Do you think your ward is a good place for residents to live?

A. The ward is much better than most.
B. The ward is somewhat better than most.
C. The ward is about the same as most.
D. The ward is not quite as good as most.
E. The ward is much worse than most.

_____ 12. In your opinion, do you think residents in your Unit have enough privacy and individual space?

A. Residents have enough privacy and individual space - with no exceptions.
B. Residents have enough privacy and individual space - with few exceptions.
C. Residents have enough privacy and individual space - with several exceptions.
D. Residents do not have enough privacy and individual space - they have not been treated fairly.
E. Residents do not have enough privacy and individual space - they have been treated quite unfairly.

_____ 13. Would your attitude toward your job be different if staff on your ward had more programming and activity supplies to work with the residents?

A. Much more positive attitude.
B. A little better attitude.
C. Neutral attitude.
D. A little poorer attitude.
E. A much more poorer attitude.

_____ 14. How closely do your actual work duties match the job description you read on applying for your job?

A. Exactly the same.
B. Basically, pretty much the same.
C. Some duties are similar, others are different.
D. Mostly dissimilar.
E. Aren't alike at all.

_____ 15. How important to me in my job is feeling useful and being needed?

A. That's the most important thing to me.
B. It's nice to be useful and needed.
C. It's o.k.
D. There are other things that are more important to me.
E. It is unimportant to me.

_____ 16. The opportunities for job advancement in your Unit are?

A. Excellent.
B. Good.
C. Average.
D. Fair.
E. Poor.

_____ 17. I feel that I am wasting my time on my job.

A. All of the time.
B. Most of the time.
C. Some of the time.
D. Seldom.
E. Never.

_____ 18. I think the inservice training is?

A. Appropriate and useful.
B. Useful, but more is needed.
C. Useful some of the time.
D. Only occassionally useful.
E. A waste of time.

_____ 19. In regard to working with residents, I think.

A. That this is a type of work that will be very fulfilling to me for most of my working life.
B. The work is enjoyable, but not something I want to spend the rest of my life doing.
C. I see this job in many ways like any other, I don't mind it, it's o.k.
D. If I could get another job with the same or higher pay, I would prefer to switch jobs.
E. If I could get another job even at a lower pay, I would prefer to change jobs.

_____ 20. The supervisors that I have on my job are?

A. Both helpful and knowledgeable about my job concerns.
B. Somewhat helpful and knowledgeable about my job concerns.
C. They try to be helpful, but don't always know enough about my specific job to help that much.
D. They don't seem to be available enough.
E. The supervisors tend to be disinterested in my job and the work I do.

_____ 21. The professional staff in your Unit:

A. Talk with ward staff regularly and ask for opinions on residents' programs, problems and behaviors.
B. Talk with ward staff occassionally and ask for opinions on residents' programs, problems and behaviors.
C. Talk with ward staff occassionally and now and then ask for opinions on resident's programs, problems and behaviors.
D. Do not talk with ward staff.
E. Appear not to treat the ward staff with respect.

_____ 22. Do you feel free to openly discuss concerns with the administrative staff of your Unit?

A. Yes; both personal and business concerns.
B. Yes; but only matters concerning business.
C. Some, but not all of the time.
D. No; it is best not to discuss either personal or business concerns with the unit administrative staff.
E. The less said the better in my unit; you can avoid trouble that way.

_____ 23. With regard to the professional staff in your unit, they seem?

A. Readily available for assistance with resident's and staff's concerns.
B. Usually available for assistance with resident's and staff's concerns.
C. Not readily available for assistance.
D. Do not think that they are performing their job duties.
E. Do not know what they do within the Unit.

_____ 24. Do you think that the Grafton State School administrative staff is receptive to your concerns or feelings?

A. Always.
B. Usually.
C. Some of the time.
D. Seldom.
E. Never.